



**November
2016**

The Surrey Amateur Radio Club

Communicator



November 2016



At The Last Meeting...

SURREY AMATEUR RADIO CLUB

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At The October 12, 2016 General Meeting...

Announcements

At 1910 hrs, Stan Williams VA7NF welcomed members and guests. An impromptu introduction was made around the room as everyone provides their name and call sign.

Lloyd Hobbs VE7WI has entered hospice and we should keep him in our thoughts and prayers.

Financial update from Scott Hawrelak VE7HA

Badges are available for \$10 see Scott at the break or after the meeting.

Reminder that membership funds are due and you can pay Scott directly or PayPal is available with a \$1 surcharge.

Membership update from John Brodie VA7XB

This is the time of the year when everyone needs to pay their dues or be dropped from the membership list. There are a total of 75 paid members to date with 17 of them being recent HAM class students.

Communicator update from John Schouten VE7TI

In the next couple days John will be working on the November Communicator and will be accepting articles or items for sale please email him: sarccommunicator@outlook.com

OTC update from John Brodie VA7XB

We were awarded \$750 in 2015 for Field Day and we informed the City that we were going to have a different set of expenses for 2016. We could still submit so we have again applied for \$750 for this year's Field Day. For next year's event we have missed the deadline but we don't know exactly what format Field Day will take.

Stan Williams VA7NF suggested we should start thinking about striking a Field Day committee prior to January. Any volunteers?

Sheldon Ward VA7XNL reports that the items for sale are listed and available for review, it looks like we will be postponing the sale until the February swap meet from the Burnaby Club.

Stan Williams VA7NF recommended we keep the list at the OTC for review when members are there.

Sheldon Ward VA7XNL is looking for anyone who has info on Windows 10 SDR software crashing.

Stan Williams VA7NF: Limited Internet is now available at the OTC.

Stan Williams VA7NF has two outstanding OTC issues. The HVAC is not operating properly in the building and we have a meeting scheduled with a tech from the city. Also some high RF noise levels have been narrowed down to the electrical room on our floor.

Stan Williams VA7NF reported that JOTA is on October 15th and we could use more volunteers, If anyone is interested let us know.

Repeater update from Stan Williams VA7NF

We are still looking to fill the position of Repeater Manager. Some members of the club have volunteered to learn the role, and some help has been offered from those in the club that have the knowledge.

Website update from John Schouten VE7TI

Howard has been busy lately and we could use some extra help on the website. If anyone is interested let us know.

Contesting update from Sheldon Ward VA7XNL

Anton and Sheldon were part of the RTTY Contest in which they made ~280 contacts worldwide.

John Brodie VA7XB: We need to get the logs to the QSL manager.

Club Net update from Garvin Yee VA7YEE

Nets have been quiet lately and we're looking for new net controllers.

New Business

John Brodie VA7XB: Moved that SARC VE7SAR formally twin with the Dundalk Amateur

Radio Society EI7DAR located in County Louth, Ireland. Seconded by Scott Hawrelak, Motion carried (*see page 18*).

Al Neufeld VE7CDC suggested a certificate for those that work 2 or more contacts between the two clubs.

Chris Cowx VA7CWX reports that although we did not participate in the raffle for the Langley Cruise-In for 2016, Langley will be trying to bring it back again for next year.

Christmas Party

Jinty Reid VA7JMR is absent today but a reminder will be in the Communicator about the Christmas Party. \$25 members \$30 for non members. If paying by Paypal please add a note stating it's for the Christmas Party (*see page 26*).

VE100VIMY update from Stan Williams

April VE100VIMY will be active for 1 week. Prior to that VE100VIMY/VE7 will be available and running from a host club, likely ORCA. There is a request for host

clubs and operators for that week. SARC is invited to apply.

Coffee Break

Presentation from Bob Meldrum VA7RGM

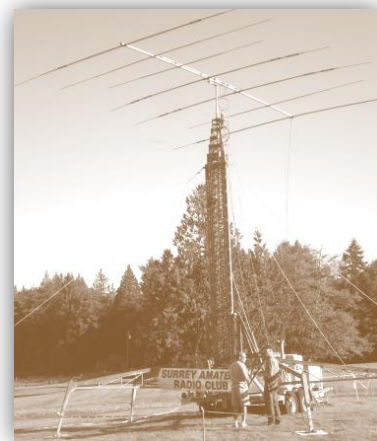
S.A.B.R.E. (Saskatoon Amateur Balloon Radio Experiments) was a project founded by Gus Schmid VE5SPI (SK) Bruce Coates VE5BNC and Robert Meldrum VE5RGM

The balloons the club launches achieve altitudes between 76000 and 80000 feet high. This is well above that of commercial airliners' altitude near 40,000 feet. Other balloons have been known to reach 120,000 feet.

An informative and entertaining presentation. *See the article starting on page 4 for more details.*

Meeting adjourned @9:15pm

~ Minutes prepared by
Jeremy Morse VE7TMY



The **SARC Communicator** is published monthly except July and August for members of the Surrey Amateur Radio Club.

To subscribe, unsubscribe or change your address for e-mail delivery of this newsletter, notify **SARCcommunicator @ outlook.com**

Non-members living in the Greater Vancouver area may receive one trial issue.

Beyond our membership area, annual Communicator subscriptions are available for a \$5 donation towards our Field Day fund.

SARC maintains a website at **www.ve7sar.net** that includes club history, meetings, news, photos and other information.



Kalmar Koffee Klatch Reminder



The SARC Weekly Koffee Klatch is on Saturday at the Kalmar Restaurant at 80th and King George Hwy in Surrey at 9:00 am. Bring your significant other, bring your family, see old friends and have fun.

On The Cover...

It was in 2008 that the other SARC, the Saskatoon Amateur Radio Club decided a fun project would be to launch a high altitude balloon with an Amateur Radio payload. After several attempts with mixed results, they were able to send one aloft and captured stunning footage. The October meeting presentation provided details, with even more information in this month's feature article.



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At The Last SARC Meeting

Amateur Radio Ballooning

Saskatoon Amateur Radio Club High Altitude Balloon 'SABRE'

We had a very entertaining and informative presentation by Bob Meldrum VA7RGM, formerly VE5RGM, who was a member of the Saskatoon Amateur Radio Club when they experimented with sending aloft high altitude weather balloons with amateur radio gear on board. What follows is an article written about these experimental launches, reprinted with permission.

I got introduced to amateur radio in Manitoba by a group of guys who were into amateur TV and packet radio. While in Manitoba I got licensed as VE4HUM. A couple of years after getting my licence we moved to Saskatoon where I held the call

VE5RGM for almost twenty years. In Saskatoon I started to experiment with Amateur TV. I enjoyed this because there is very little commercial equipment available, so to get on the air required resourcefulness and experimentation to build and adapt equipment for that mode.

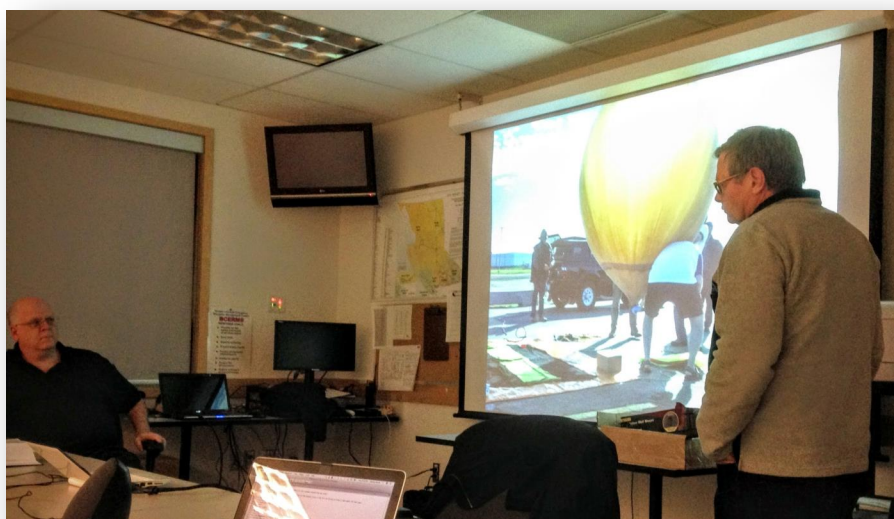
I introduced the Saskatoon Amateur Radio Club to Amateur TV and a number of us operated simplex until we set up the ATV repeater in Saskatoon; 440 mhz in, 1.2 ghz out with the control frequency at 144.390 MHz.

My interest in ATV lead me to participate With VE5SPI and VE5BNC to develop the Saskatoon Amateur Balloon Radio Experiment -SABRE. The three of us were drawn to ballooning because we had to build/scrounge/adapt almost every piece of equipment we used. Ballooning turned out to be a very popular club activity. It brought the club members together to achieve some incredible results with very modest resources.

In 2010 we moved to South Surrey and once again I changed my call, this time to VA7RGM. I have been a member of the White Rock Amateur Radio Club for the past five years and through them I was introduced to the world of HF. Living in a strata has made it difficult to get on the air so my main interest in the hobby these days has shifted to experimenting with "covert" HF antennas.

The winters in Saskatchewan can be a bit long so we often look for something to take our minds off of it. Late in the fall of 2007 while warming ourselves in a local coffee shop, Gus (VE5SPI) brought up the idea of launching a high altitude balloon.

We discussed some of the things we could do and what each of us would like to accomplish. We agreed that we would at least want to fly an APRS



Bob describes the experiments

tracker as well as take pictures during the flight. We also discussed the possibility of some type of voice repeater but it soon became obvious that we should keep our first flight relatively simple. At this point all we really knew was that our project would involve a balloon, hopefully going high. We knew then that we had a few things to learn. Our hope was that we could introduce new aspects of amateur radio to local members as well as promote existing areas such as APRS and fox hunting and have a heck of a good time doing it. An idea was born.

Early on we decided that no idea would be too crazy for consideration. The only limitations would be size and weight. Our entire payload had to fit in an 8 inch cube. We also set a target of 500 grams each for our individual payloads. Based on this, we decided that each of us would be responsible for the design and assembly of our own payloads. We were also having trouble coming up with a suitable name and acronym for our project so we decided to give ourselves official sounding titles instead as you will see below.

Over the next few weeks we immersed ourselves in the information on the various ballooning web sites. We knew we would want to use APRS as a method of tracking and we also wanted to bring back pictures from the edge of space. Another local ham, Bob (VE5RGM) had often mentioned the idea of flying balloons and kites. Bob was instrumental in getting the local ATV repeater on the air in 1998 so it was only natural that he would introduce the idea of flying an ATV transmitter. Bob set to work designing an ATV payload. His home ATV transmitter was too

large and heavy for a balloon so he purchased a smaller one from another local ham. By now, it was obvious that Bob had become our ATV Payload Specialist.

Gus began work on a Byonics PocketTracker that he had purchased a couple of years ago but never assembled. Our research showed that the Rand McNally GPS that he already owned should work above 60,000 feet. Gus works for a local electronics distributor so he has easy access to technical information. This would be vital for our research into battery technologies. Gus also took on the task of parachute research. This meant that we had to call him our Tracking, Power and Recovery Specialist.

I also wanted to fly APRS but took a different approach. I chose to use an OpenTracker, an old Motorola MX330 radio and a Garmin GPS18. I also took on the task of building our payload capsule, primarily because I already had a large sheet of Styrofoam insulation in my basement that had been purchased for another project that never got off the ground. I also found a source for balloons and ordered 3. A local surplus store had digital cameras on sale just before Christmas and I just couldn't resist, so I

On December 28, 2011 we lost our friend and founding member of the SABRE ballooning group Gus, VE5SPI-SK

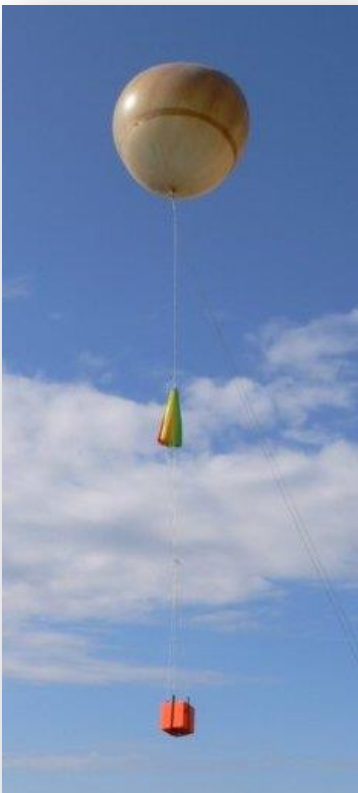
Gus was the one that originally came up with the idea to get into this crazy pastime and we will miss him very much.



SABRE-1 at Liftoff

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"I also made a fluorescent orange slip cover for the payload box, so I'm sometimes referred to as the Chief Seamstress"



bought two, one for still pictures, and one for video clips. There was no turning back now. I guess this makes me the Lift, Imaging and Assembly Specialist. I also made a fluorescent orange slip cover for the payload box, so I'm sometimes referred to as the Chief Seamstress, but I don't like to talk about that.

As I mentioned our winters are long but they're often cold too. This would normally be a problem for unless you want to do low temperature testing of your balloon payload. In January, the whole province is like one big cryo-chamber. After roughly assembling my APRS module, two cameras and a battery pack, it was time do some testing. I turned everything on and placed it outside at -20 for a few of hours. It faired very well, but it didn't really tell us what would happen at -40 and below. I would just have to wait ... but not for long. In late January the temperature finally took its usual dive. Outside it was -39 with a wind chill of about -60, a perfect night for a test. I bundled myself, slipped outside and put the payload in the wind swept driveway. I then retreated to the warmth of the house and a steaming cup of tea, where I monitored the temperature and battery voltage via APRS. Three hours later, the payload internal temperature was still above freezing and the battery was going strong. "Good enough for me", I thought.

Meanwhile, my two co-designers were also hard at work. Gus purchased a parachute made from one panel of each of the brightest fluorescent colours he could find. He had also did some research onto battery technologies. As many other balloonists have also found, lithium batteries were the clear winner. Other experienced balloonist had cautioned us against using a single power source for all of our modules. We took this advice to heart, and each of became responsible for our own power system. Bob chose to use high capacity lithium AA cells. I chose to use lithium CR123A cells. As of this writing, Gus has not chosen which battery

he will use, but it's probably safe to bet it will be different than either Bob or I have chosen. Only in ham radio can everyone do everything differently and still all be right.

As the planned launch date for the first balloon of May rapidly approaching we finalized most parts of our design. We will be flying two independent APRS trackers, an ATV transmitter, one still camera and one video camera. Both APRS trackers will operate on 144.390 MHz. VE5AA-12 will be the 300 mW PocketTracker, Rand McNally GPS using a coaxial dipole below the payload. VE5AA-11 will be a 3 watt transmitter, OpenTracker monitoring battery voltage and internal and external temperatures and a Garmin GPS18 using a vertical 1/4 wave ground plane antenna built into the top of the payload. The ATV transmitter will be a 1 watt PC Electronics AM transmitter operating on 439.250 MHz and using an inverted 1/4 wave ground plane antenna built into the bottom of the payload. The camera package is built from two Polaroid iZone i310 digital cameras with 1GB memory cards and a custom made controller board. Our next instalment will contain technical details on the entire payload and each of our modules.

73, and happy ballooning.

~ Bruce VE5BNC

Some links that may be of interest:

- <http://ve5aa.dyndns.org/balloon/>
- CBC Morning edition had a radio interview with Bruce for SABRE 6 in June 2009.
http://ve5aa.dyndns.org/Balloon/SABRE-6/Morning_Edition.mp3
- <http://predict.habhub.org>
- <https://www.youtube.com/user/ve5aa>

Balloon Technical Article

Saskatoon Amateur Radio Club High Altitude Balloon - SABRE

*Live Tracking
Operating Frequencies
APRS - 144.390 MHz*

Spring has finally come to Saskatoon and like the world outside, our balloon project is about to bloom. Each of us has been working on our parts of the project and things are starting to come together. We even have a name. SABRE, Saskatoon Amateur Balloon Radio Experiments.

This article will describe the design and construction of each of the components of our balloon. They are:

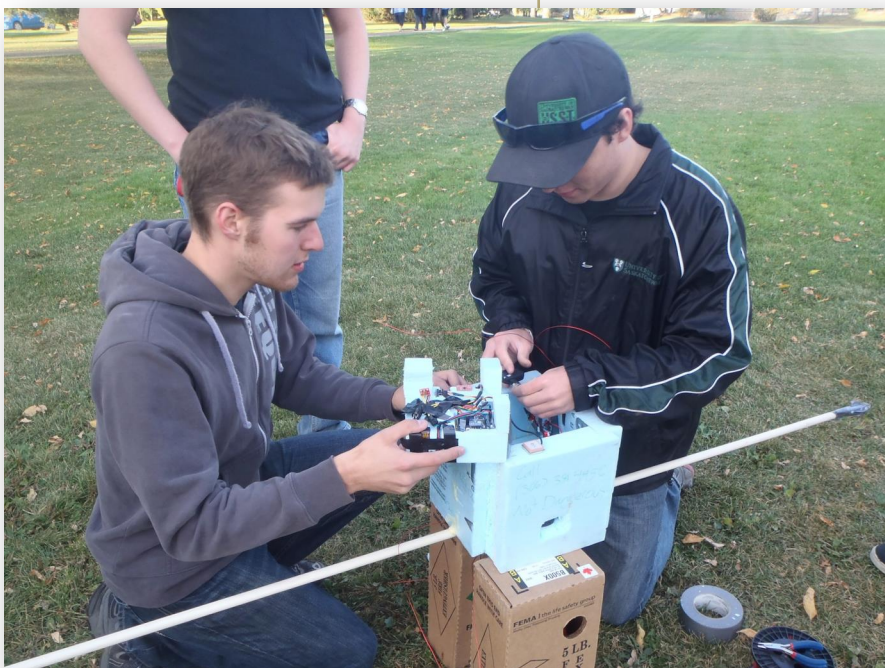
- Payload Capsule
- Balloon and Parachute
- Camera Module
- OpenTracker APRS Module
- PocketTracker APRS Module
- ATV Module

Payload Capsule (VE5BNC)

We did quite a bit of research on what other people were using to carry their payloads. The designs ranged from custom built, fibreglass reinforced capsules to insulated lunch bags and everything in between. We had already decided that we would want something that provided both physical and thermal protection. Rigid Styrofoam seemed to fit the bill and I just happened to have a sheet of pink 2 inch thick R10 insulation in the closet. A big shock came when I weighed it and found that it's about 110 grams per square foot. This meant that the 1 foot cube capsule would weigh over

500 grams once the joints were taken into account. Since this is our first flight, we decided to err on the large size and hope that the extra weight wouldn't be a problem.

The capsule is built from 4 identical panels, each 12 inches high and 11 inches wide. The corners are joined with rabbet joints and secured with epoxy. This creates a box that is 12 inches on each side with an 8 inch square cavity inside. The bottom is simply an 8 inch panel square that slips into the bottom of the capsule. It's held with epoxy and 1 small bamboo dowels. The lid is a bit more complicated. I started with a 12 inch square panel. I then removed a 2 inch wide and 1 inch deep channel around the outside edge. This created an 8 inch square area in the middle that would slip



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SARC members listen to Bob's engaging presentation.

into the cavity in the payload. To provide a bit more protection and to make our payload more visible, the entire box is covered in fluorescent orange nylon.

Once I knew the location of the digital and video cameras, I cut for them. The digital cameras look out through a cone shaped hole in the wall of the payload. The ATV video camera is built right into the wall of the payload and looks down at a 45 degree angle. The surface of the holes is painted flat black to reduce glare. I also mounted the external temperature probe so that it protruded about a half inch through the side wall.

A lifting harness was made from light nylon webbing. The straps cross under the bottom of the payload and one strap runs up each side. The straps wrap over the lid to secure. An additional lifting loop is attached to each strap. These loops will be connected to our lift lines which connect to the parachute shroud lines.

Balloon and Parachute (VE5BNC & VE5SPI)

The balloon is a surplus military balloon purchased on eBay. It was made with a large skirt which we removed. This saved over 1 kilogram of weight. In the end the balloon appears to be equivalent to a Kaysam 1200 gram balloon. The parachute is a 72 inch model purchased from Spherachutes. They custom make each parachute and ours is made from 2

panels each of fluorescent green, fluorescent orange, fluorescent pink, and fluorescent yellow. It one ugly parachute but it's sure to be seen.

Gus took on the task of building the filler hose assembly. We acquired a helium regulator from eBay but we needed to adapt it to fit the neck of our balloon. A bit of checking revealed that the outside diameter of 3/4 inch PVC electrical conduit was the perfect size and I just happened to have a piece. Gus then picked up a 25 foot hose designed for an air compressor. Anyone that has worked with air compressor fittings, electrical conduit and plumbing fittings know that none of them seem to use the same size of fittings. After a bit of mixing and matching at the local hardware store Gus has something that would connect the compressor hose to a plumbing valve and then to the conduit. It's a combination of brass, copper, steel and plastic, but it works.

Camera Module (VE5BNC)

Last year I picked up two Polaroid iZone 330 digital cameras from a local surplus outlet. These cameras are small, reasonably light, take good daylight pictures, have internal Li polymer batteries and are easily modified for remote control. Each camera has a 1GB SD card which will hold about 700 still images or 1 hour of video. The modifications involved removing the flash circuit board and installing a 10 pin connection that connects to various points in the camera. This allows the controller to turn the cameras on and off, switch from digital to video and even supply power to recharge the internal battery.

The controller is built around a Microchip 16F84 microcontroller and two supporting logic chips. I could accomplish the same function without the supporting logic chips but that will have to wait for the next generation. The controller programmed for the sequence below. The end result is that the cameras will take one still picture each minute and a 5 minute video every 15 minutes. The controller also takes care of the audible siren. This is a simple 110dB

personal panic alarm. The controller is set to turn on the siren for the 12 seconds it takes to take a picture. It does this after 3 hours avoid triggering the peizo element in the extreme cold and possibly damaging it.

Still camera cycle

- Turn on still camera and take a picture
- Turn off camera (12 seconds has elapsed)
- Wait 48 seconds

Video camera cycle

- Wait 15 minutes after power-up
- Turn on video camera and start taking video
- Wait 5 minutes
- Stop taking video and turn off camera
- Wait 10 minutes (optionally provide charge voltage for battery)

OpenTracker APRS Module (VE5BNC)

When the decision of what kind of tracker to fly came up, we just couldn't decide so we chose to fly two separate tracker. I wanted to use an OpenTracker because it would allow me to measure internal temperature and battery voltage during the flight. It also has the capability of switching between two configurations base on several parameters including the temperature and voltage readings.

Next I needed to build the transmitter. Like any good ham I have lots of "spare" equipment laying around. In my heap I found several Motorola MX300 series hand helds. I started with a 6 watt MX350. I was able to remove all of the unnecessary parts like the case, speaker, and so on but the resulting radio was still heavier than I wanted. I then turned my attention to a 2.5 watt MX330. Once it was stripped down it was significantly lighter. Some basic calculations showed that the extra range of the 6 watt radio would be marginal and wasn't worth the extra weight and power consumption so I stayed with the 2.5 watt radio.

Now to decide on the GPS. One option was a Rockwell Jupiter board and external antenna. I also have a couple of Rand McNally "mouse" style GPSs. Research showed that both of these would work above 60,000 feet. A quick test of current consumption showed the Rand McNally GPS was the clear winner. Not long after Christmas, I stumbled onto a Garmin GPS18. This GPS will also work about 60,000 and consumed about half the power of the Rand McNally unit.

I also wanted to track the external temperature during the flight. The OpenTracker has one unused analog input. By purchasing another temperature sensor and duplicating the existing biasing circuit I was able to have a second, external temperature sensor. The sensor was glued into the tip of a piece of 3/16 hobby tubing. The tubing was then mounted so the tip protruded through the wall of the capsule.

Now it was time to decide how to power it. I wanted to use lithium batteries but wasn't sure about which type. I finally settled on 3

"Next I needed to build the transmitter. Like any good ham I have lots of "spare" equipment laying around."



Click on the photo or copy the link below to view the video

https://youtu.be/eAAY_Y7oYuk

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(Continued from page 9)

standard CR123 camera cells in series. They are rated at 1300 mAh and can provide as much as 3 amps for short periods. My power budget showed that these would provide over 6 hour of run time for my tracker.

Now the only piece left was the antenna. I first considered some type of dipole. Mounting options included a sleeve dipole above or below the capsule, side mounting and even a horizontal dipole. I couldn't come up with a mounting system that I was happy with so I turned my attention to a 1/4 wave vertical. The big drawback of this was how to build the ground plane. Standard 20 inch radials or ones draped over the sides would almost certainly get tangled in something. Although I had never seen it, I wondered about folding the radials in such a way that they would fit into the area of the lid. I ran some designs for folded radials through antenna analyzing

programs and they all showed that it should work fine. After a bit of design work I was able to get them to fit into the payload lid. The Capsule Lid Drawing above shows the details. The radiator is simply a 19 inch piece of spring steel from a hobby shop.

PocketTracker APRS Module (VE5SPI)

Gus decided to follow in the footsteps of many other balloonists when it came to his tracker. When you're 30 kilometres above the ground a little bit of signal goes a long way. To him, this meant that the Byonics PocketTracker would be the ideal APRS tracker. It's no longer available but this is a tracker kit built around the Byonics TinyTrak III. It puts out about 300 mW and is designed to fit into an Altoids mint can.

When it came to the GPS, Gus also has a Rand McNally GPS that he uses in his vehicle. He will be retrofitting this to connect to the PocketTracker.



Bob - VE5RGM

Bruce - VE5BNC

Gus - VE5SPI

Gus chose yet another antenna design. He will be using a 2m dipole made from RG174 coax. The antenna is made by folding about 20 inches of the braid back along the cable and leaving 19 inches of the center conductor exposed. This antenna will be mounted on the bottom of the payload and will trail below the payload.

Gus had settled on two power sources for his tracker. Since the PocketTracker was designed to have a standard 9v battery inside the Altoids can, he will use a lithium 9v to power the tracker. Rather than build his own battery pack, he decided to take advantage of the extra capacity in Bob's pack and will use this to power his GPS.

ATV Module (VE5RGM)

Bob has been involved in ATV for over 10 years. Although he has a portable ATV station, retrofitting this to work in our balloon wasn't practical so he purchased a PC Electronics transmitter from a local ham. The transmitter hadn't been used for several years so we decided to give it complete tune-up. To our surprise, it worked perfectly the first time.

Of course an ATV transmitter isn't much good without a video source. Bob scoured the Internet and eBay for cameras. He settled on one designed for an automobile rear view system. He chose this for several reasons. The camera he chose is waterproof, designed for cold temperatures, and of course, cheap. The only drawback is that rear view cameras produce an image that is backwards. This can be a bit confusing down here on the ground but shouldn't cause any problems during the flight.

Bob is an inventor in the truest sense. He wanted to build a 1/4 wave ground plane antenna but found that the ground plane was the most

troublesome part. He needed to find something that was light, a good conductor and just the right size. The usual things like pie plates were ruled out because they were simply too mundane. Something like an aluminum pop can would be perfect but they were too small. Surely something came in larger cans. Then it occurred to him. He had an idea but only rigorous research would prove his design. After a few prototypes he had what may just be the perfect antenna. You see, not only is a tall boy Pilsner beer very refreshing, the can it comes in is the perfect dimensions for a 439 MHz ground plane. Just mount a BNC connector in the center of the bottom, remove the top and cut the sides in 4 places. Once you add about 6 inches of brass rod to the center conductor of the connector, you have an antenna that is sure to turn a few heads. The ATV antenna will be secured to the bottom of the capsule.

Bob also did his homework when it came to batteries. The transmitter and camera can draw as much as 400 mA and require at least 10 volts to operate. He wanted to use Lithium cells but the CR123 cells didn't have enough capacity. Lithium AA cells looked promising but most are limited to between 100 and 200 mA. He found some Lithium AA cells that are rated at 2900 mAh and were capable of sustained loads of over 1000 mA. One disadvantage is that AA cells only provide 1.5 volts so he had to use 9 cells.

To make things even more interesting, Bob chose to use the audio signal from the OpenTracker for his ATV audio. We don't know how well this will work, but the experiment promises to be interesting.

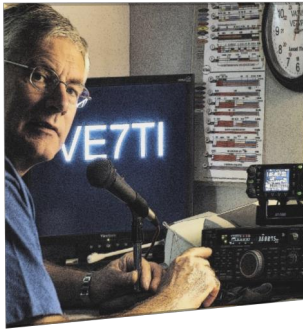
73, and happy ballooning.

Bruce - VE5BNC



Bob presents the experiment at the October SARC meeting

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QRM

...from the Editor's Shack

*Do you have a photo or bit of club news to share?
An Interesting link?*

*Something to sell or something you are looking for?
eMail it to [SARCcommunicator @ outlook.com](mailto:SARCcommunicator@outlook.com) for inclusion in this column.*

Remembering... Three SARC Silent Keys

Bob Findler VE7EYF

Born in Failsworth, Manchester, England and passed on peacefully at Surrey Memorial Hospital. Bob met his most recent challenges with exceptional strength. His steadfast independent nature and lifelong determination were an inspiration to all who knew him. He served with the 2nd TAF RAF group as a wireless operator from 1941-46. Upon arrival in Canada he worked with his brother Bill as an electrician. Bob then joined Canfor's Plywood & Hardboard Division and ascended into the electrical foreman position. He was a member of the Westminster Royals soccer club for many years, also winning the Canadian Soccer Championship. Bob was also a past secretary of the Surrey Amateur Radio Club. **VE7EYF: MOBILE AND MONITORING** Bob was predeceased by his wife Eleanor and is survived by his children Val, Kathy, Bob Jr. and Bill plus his many adored grandchildren and great-grandchildren as well as close relatives who will sorely miss him.

Bob was a big contributor to SARC and a very fine individual. He was also a first class CW operator and I spent many hours with Bob operating at field day.

~ Fred VE7IO



Garvin Yee VA7YEE

We have some very sad news to pass along. Garvin (George) Yee VA7YEE passed away from an apparent heart attack Saturday morning, October 15 amidst stormy skies and dark clouds. He wasn't feeling well and called for help from his dad. His father was with him at the hospital when he passed. The family hosted a celebration of life on October 29th and a dozen SARC and SEPAR members attended.



Garvin was a retired Canadian Forces Signals Warrant Officer from 744 (Vancouver) Communication Regiment at Jericho Beach, but many of you will know Garvin from his SEPAR and SARC activities, his contributions to The Communicator, coordination of the Net, and his participation in many Surrey amateur radio activities. He embraced the hobby and participated fully despite his loss of sight.

Garvin posted a weather warning for the storm the day of his passing. In that last internet post his sense of humour was present,

"And remember in Twister. It isn't the flying cow, but the screaming cat! Don't worry, they always on land on their feet. Even at 110 mph."

We'll miss you Garvin.

Lloyd Hobbs VE7WI

At the last meeting we were advised that Lloyd Hobbs VE7WI & VE7LDH had entered hospice and that we should keep him in our thoughts and prayers. Lloyd was a long time member and honorary life member of the White Rock club and a past member of SARC, active in Field Days past. He became a silent key on October 9th.



Page 13—News You Can Lose

The Lighter Side of Amateur Radio

'Long-Reach' Antenna Introduced

Courtesy of: BUSINESS USE RELATIONSHIP PRESS SERVICE (BURPS)

WELLSBURG, Mo. - The Wet Noodle Antenna Company, a division of Peanut Whistle Transmitters, is unveiling a new, ground-breaking antenna product just in time for the upcoming hamfest season.

The new and innovative long wire antenna, dubbed the "LONG REACH"*, will come in a variety of lengths and wire gauges sure to please even the most discerning amateur radio operator.

"We felt now was a superb time to introduce this unique product to the marketplace," says company president Macy Blixton, daughter of Wet Noodle founder John Blixton. "And I must say initial feedback from the ham radio community has been overwhelming."

Building on the quality engineering which made Wet Noodle a world-renowned name, the "LONG REACH"* random wire antenna will be offered in a variety of lengths and configurations.

"Suitable for every ham radio operator's unique set of environmental circumstances" adds corporate spokesman Rafael Algonquin.

Each "LONG REACH"* antenna is a true random wire antenna: no two are alike! Customer A may receive a 32 foot piece of 10 gauge solid copper wire; while Customer B may receive 47 feet of 16 gauge copper weave; Customer C may receive 16 feet of 14 gauge aluminum braid.

Strategically, the Wet Noodle engineers will NOT include connectors, feed points, insulators, installation or instruction diagrams with the "LONG REACH"*, a tip of the hat to amateur radio operators ability to "customize each random length and type of wire to best suit their needs."

Due to the random lengths and/or gauges of the finely crafted antennas- which ship in a hand-packed container - no operating specifications (i.e., resonant frequencies, etc.) are available.

Here's the SPECTACULAR

"L--O--N--G R--E--A--C--H"

RANDOM LENGTH OF WIRE ANTENNA

PRICED AT ONLY

\$149.⁹⁵

THE "BEST" STRAIGHT WIRE AVAILABLE
PERFECT FOR STRINGING BETWEEN TREES
ACCURATE
EASY TO INSTALL
PREMIUM SELECTIVITY
"OPTIMIZED" FOR HAM RADIO BY OUR UNIQUE PROCESS



"You are 599, OM!"

*actual product may vary

ANOTHER FINE PRODUCT FROM

WET NOODLE ANTENNAS

"When the "LONG REACH"* is paired with one of our Peanut Whistle Transmitters, such as the Peanut Whistle Model 250 or Model 500, it's a really a display of an unbelievable quality of workmanship, says Blixton.

"We are excited and look forward to serving the amateur radio community for many years to come!"

The "LONG REACH"* random wire antenna will be formally

introduced next month at the Chili Dog Hamfest in Truth or Consequences, New Mexico. Suggested retail: \$149.95.

Legal disclaimer: The term "LONG REACH" is not intended to imply any specific level of performance, wire length, resonance, conductivity, impedance, capacitive inductance nor DX operating ability.

~ Ham HiJinks

November 2016



Back to Basics

John Schouten VE7TI

From The Basic Question Bank

B-001-005-003

Where a friend is not the holder of any type of radio operator certificate, you, as a holder of an Amateur Radio Operator Certificate with Basic Qualification, may, on behalf of your friend:

- A. install and operate the radio apparatus, using your own call sign
- B. modify and repair the radio apparatus but not install it
- C. not install, place in operation, modify, repair, maintain, or permit the operation of the radio apparatus
- D. install an amateur station, but not operate or permit the operation of the apparatus

There are several questions in the Basic Question Bank that deal with the subject of who is permitted to operate your equipment, if you have to be present, if you can install a station on behalf of another person and the security of your station when you are absent.

You, as a licensed Amateur, may only install a station for yourself or another person according to your license class, and the other person's. In other words, if you only have a Basic license, you cannot install an HF transceiver in your friend's shack; and you cannot install a transceiver at all if he/she has no license. You can only deal with equipment you are licensed for.

If you are present in your friend's shack and you have Basic, he/she has Honours, you can operate that station with his/her callsign if the HF licensee is present at the control point. If they leave, you have to stop operating.

By the same token, if you have HF privileges and they have not, and you operate using their station callsign, you can only operate at VHF and higher (Over 30 Mhz) because they are not licensed to operate their station at a higher level than their license permits. If you set up your HF gear at their house temporarily (not a permanent installation) you would have to operate under your HF licensed callsign.

As far as security, you as the licensee, are expected to make your station inoperable to prevent unauthorized transmissions. That could include removing the mic while you are absent or shutting down the power in a way that makes the station inoperative for curious visitors.

So the correct answer to the question above is number C. not install, place in operation, modify, repair, maintain, or permit the operation of the radio apparatus

~ John VE7TI



The SARC Basic course



JOTA Report

Saturday, October 15 was worldwide JOTA—Scouts On The Air day at the Surrey Amateur Radio Operational Training Centre. Sixteen members of the 10th White Rock Pack joined operators Stan Williams VA7NF, Rob Gilchrist VE7CZV and John Schouten VE7TI behind the mic. They were in for an exceptionally hi-tech experience because Stan had installed his Flex 6300 SDR transceiver at the station. The more senior scouts were especially interested in the computerized interface that makes this unit such a joy to operate.

Despite some strong winds the night before, we were able to extend the HF Yagi almost fully, although we had to do some quick maintenance to untangle the feedline which had wrapped around the tower limiting the antenna movement.

Once on the air each scout had an opportunity for some one-to-one contact with other scouting participants. Twenty meters was open and they made eight QSOs although one, with W1AW, faded before we could carry on a complete conversation.

Two stations in particular, KI6RRD in Redondo Beach, CA and W6SFI in San Diego proved to be especially worthwhile as both stations

spent in excess of 30 minutes talking to each Scout present. W6SFI

was located in Balboa Park right beside the San Diego Zoo at a Jamboree with several hundred scouts on an overnight camp-out. JOTA was one of their highlight activities.

This was an enjoyable event for all present, including a lunch prepared by the Scout Leaders. A future fox hunt was discussed as an additional activity that would combine our hobby with orienteering. JOTA underscored the benefit of having a facility like the SAR OTC and several of the Scouts indicated a desire to look more closely at the hobby in the near future.

~ John Schouten VE7TI



Mackenzie at the mic and the resulting QSL card from W6SFI in San Diego.



Devon gets pointers from Stan

November 2016



Radio-Active

Geoff Higginson VA7HIG

Profiles of SARC Members

Andrew Gunson VE0MIA

Ham on the High Seas

Usually it is our practise to interview SARC members for Radio Active, but this month I have a special guest interview with a High Seas Ham, VE0MIA, Andrew Gunson.

Not many of us have the chance to operate from a pitching, rolling and yawing Ham Shack but Andrew does so on a regular basis as Skipper and Owner aboard Maiatla II. Andrew, aka "The Naked Canadian" has been operating on the High Seas and from scores of Pacific and Caribbean Islands under Canadian License VE0MIA.

Since he was a young man sailing on Lake Ontario out of Burlington, Andrew has been called to the sea, first as a deep sea commercial oil field diver, yachtsman and now skipper and owner of Maiatla II with his bride and co-captain Janet, adult children Melissa and Thomas and scores of friends and relatives as crew.

Maiatla has been the

Gunson's home for 18 years, where they raised their children aboard since they were pre teens.

Andrew gets on air with his Icom 700 Pro with a 130 Automatic Tuner and gets "out" with his backstay as an antenna and of course a ground plate connected to the world's greatest ground plane. Upgraded to a Pactor modem he can send high seas emails to stay in touch. When travelling the VHF and UHF radios were the only means of contacting family and friends and so the children were taught from a young age how to use the radios and proper radio etiquette. At times left alone onboard being able to call mom and dad for help was necessary and possible because Andrew carried a hand held VHF radio when ashore. VHF Marine and Ham Radio were never toys but were essential for the safety and comfort of everyday life afloat, including giving their children a simple and practical way to make contact with other boat kids.

Ham Radio is critical for voice and email communication in emergencies and for receiving weather GRIBs which show weather systems and data in fax format (https://weather.gc.ca/grib/what_is_GRIB_e.html). On their last voyage from Mexico to the Galapagos Islands, a distance of approximately 1000 miles, they lost their engine halfway there due to a faulty fuel injector pump. This was



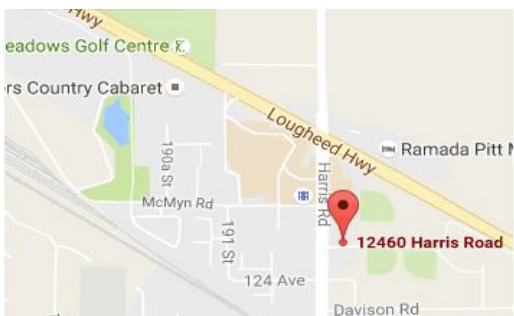
a tense time as they had to rely on wind power alone to get them the rest of the way. Andrew used the iCOM to not only tell their families back home that they would be late in arriving but to notify the Ecuadorian Authorities that they were a disabled vessel and would require a tow into the harbour after successfully sailing right up to the Harbour Mouth in San Cristobal Island. One of Charles Darwin's most famous land falls years ago, they saw the same strange and wonderful unique creatures that Darwin himself catalogued.

An accomplished writer, he has published two books of his adventures on the ocean starting with "The Voyage of Maiatla II-with the Naked Canadian" (you'll have to buy the book through Amazon.ca to find out what the "Naked" means) and a second book "The Tahiti Syndrome-Hawaiian Style".

Andrew and Janet catalogue their adventures at <https://thenakedcanadian.wordpress.com/> and Maiatla's exploits can be viewed on-line at <http://shiptrak.org/> (VE0MIA). When at sea Andrew can be contacted on the Sea Farer's net at 14.300MHz daily at 0300 UTC, see this on-line at <http://www.pacseanet.com/>.

Avid fishers, scuba divers, and world explorers Andrew and Janet live in Nanaimo when not aboard Maiatla II. Andrew works in the oil patch as a quality control inspector/bricklayer refractory specialist during the busy "shut down" periods, dreaming of Maiatla II and his next high seas adventure.

~ Geoff VA7HIG



Maple Ridge Swap Meet

The Maple Ridge Amateur Radio Club Swap Meet will be held on Saturday, November 6 starting at 0900 at 12460 Harris Road, Pitt Meadows.

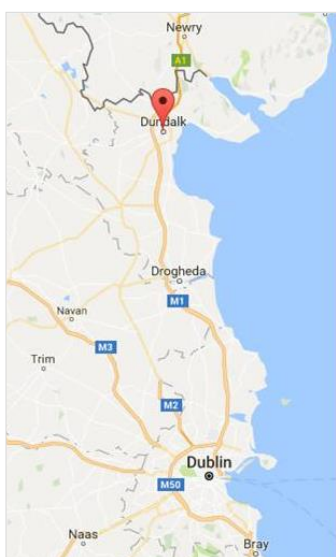
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More Surrey News

John Brodie VA7XB

VE7SAR and EI7DAR are Twinned!



Many of you will remember our visitor from Ireland, Tony Allen EI4DIB and his wife, Madeline, who visited SARC on Field Day a few years ago and again in 2016 at a summer get-together at the OTC. Heather and I reciprocated the visit in September when we were in Ireland. Tony and Madeline live in Drogheda (pronounced “Droh-duh - the “g” is silent), a lovely village of population 38,000 a few km north of Dublin.

We took the train from Dublin along the coast and were met by Tony and Madeline at the station on a cloudy and cool, but rain-free, morning to begin our tour of this historic part of Ireland. Tony introduced us to a ham friend, Adrian O’Gorman EI2KJ. Like many villages in Ireland, the Catholic Church is the dominant architectural feature of the place but there is plenty else to interest the visitor including Old Mellifont Abbey, the Battle of the Boyne memorial and Newgrange. Newgrange is a Stone Age (Neolithic) monument in the Boyne Valley, County Meath, constructed about 5,200 years ago (3,200 B.C.) which makes it older than Stonehenge and the Great Pyramids of Giza.

It was Tony’s idea to “twin” SARC with the Dundalk Amateur Radio Society EI7DAR, a regional club serving County Louth and neighbouring counties. After our return to Surrey, the question was considered by SARC’s membership at the October 12th meeting where, after

a brief discussion, a motion was made and carried (as follows):

“Moved that SARC VE7SAR formally twin with the Dundalk Amateur Radio Society EI7DAR located in County Louth, Ireland.”

The Dundalk Club, founded in 1969 and based in Dundalk, Co.Louth, has about 30 members active on HF, VHF and UHF. Their website can be found at: www.ei7dar.com.

The society has its own clubhouse located on the Castletown Road in Dundalk, and from this location they hold monthly meetings and other amateur radio based activities, including contests, VHF/UHF Field Days, radio & antenna construction and emergency/public events communication.

DARS is affiliated with the Irish Radio Transmitters Society (IRTS) since 1969, which is the national society for radio amateurs in Ireland. Its purpose is to encourage radio experimentation, to provide services to amateurs and to represent their interests nationally and internationally. The IRTS is the member society for Ireland of the International Amateur Radio Union.

DARS operates a 2 metre VHF repeater EI2CCR with TX on 145.675 Mhz, RX on 145.075 Mhz using a tone of 110.9 Hz operating from Clermont Cairn Mountain. They also host an Echolink internet gateway node 57007: EI2MOG-L on 145.2125Mhz and another one at



70.350 MHz, the latter not available to Canadians.

Their weekly net is on Monday night after the Irish Radio Transmitters News at 8pm local, streamed live Via EI2CCR Repeater. To listen, go to www.ei7dar.com then click on the Repeater tab, followed by Radio Reference .

What does “twinning” imply for both clubs, you may wonder. I would say first of all that it establishes a social connection, i.e. it expands our horizons beyond our own local perspective and gives the organizations a reason to communicate with each other, in the spirit of “hands across the oceans” - via radio naturally. Perhaps, also, it will encourage members of both groups to travel to the country of the other and promote new friendships. We might also benefit from an exchange of technical information as each club has its own special interests and talents. One suggestion made at our last meeting was that a certificate be issued to any member who makes, say, 3 confirmed contacts with a member of the other club on any mode or frequency.

Let's hear some other ideas.

~ John VA7XB



November 2016



Surrey Emergency Program Amateur Radio

The SEPAR Report

Roger Andrews VA7VH



Garvin VA7YEE (SK)

To All SEPAR Members

For those of you that don't know me, my name is Roger VA7VH and I'm a fairly new member with SEPAR (Since this past July). I volunteered to do this weeks SEPAR bulletin because Garvin had a medical emergency in the early morning of October 15, 2016 and shortly thereafter passed away. As a new SEPAR member I had only just begun a friendship with Garvin. He struck me as a caring person. He was a dedicated communicator and proud of his Radio operator service with the Reserves, Fire Dispatch and SEPAR. Garvin was not sighted but overcame that disability to become an excellent Net Controller. I know I will miss his voice on the Net and his weekly bulletins.

1. Over the 3 day storm event the Lower Mainland / Sunshine Coast had a total of 193764 BC Hydro customers affected. This wasn't a very big storm event but those numbers remind us that it doesn't always take much to disrupt our daily lives.

On Friday 14th during the storm Rob VE7CZV setup an impromptu Net Control for the storm. There was at least one of us with power outages (Me) and he took reports on the storms progress from myself and others. It was a good opportunity for a little practice. That storm, and the warning of the third storm (which didn't affect us as badly as the forecasters predicted), were nevertheless events that should reminded us that we need to be prepared.

2. On that note many of us have a 72 Hr Emergency Kit (or should have), but what will you do if you are not at home when

disaster strikes. We should also give some thought to preparing a 72hr Vehicle Emergency Kit. I'm not going to go into what should be in one of those because there are quite a few websites that give examples. A 72hr Vehicle Emergency Kit is a smaller version of the 72 Hr Emergency Kit and is meant for your car so that you have a limited amount of supplies to help you survive until you can get back home or during your trip home. Go to <https://www.getprepared.gc.ca/cnt/kts/cr-kt-en.aspx> or, for other ideas, Google "72 hour vehicle kit" or "Get Home Bag" for more suggestions.

6. Every Tuesday evening at 1930 hrs (7:30pm PDT) we start a ½ hour net on a local repeater provided by the Surrey Amateur Radio Club (SARC) on 147.360 MHz. Simplex (146.550 MHz) test/check in, time permitting.

7. Thursday nights at 19:30 hours, we only provide Simplex operations starting on frequency 146.550 and changing frequencies and bands for further signal checking. During these tests, we encourage those with mobile or hand held capabilities to try different locations each time to become more knowledgeable as to what to expect in a real disaster. We are unable to predict where we will be located when we are needed. Additional training sessions and practice exercises are scheduled throughout the year including participation with other departments and agencies. Also a good opportunity to practice being net control and passing messages.

~ Roger VA7VH



Adam's Tech Topics

Adam Foley N1RKW

Homebrew Components

There's always something pulling me away and sucking away my time: Time I should be using to build electronic projects, time I should be using to repair radios (sorry Doug, sorry Cliff), time I should be using to sort out my ever increasing collection of tubes (I think they can multiply when left alone together in a dark room, possibly the same way teenagers do), time I should be using to write this article.

Today, that time sucker was laundry.

You'd be amazed how the simple job of doing laundry can absorb the better part of an entire day. Or perhaps you wouldn't be. Maybe that's something that you, like most of us, already know.

So why in the world am I bringing up boring household stuff?

Because it's a segue.

I've been writing these articles for more than 2 years now, and there's one idea that I've always planned on doing but never got to, until now. Boring household stuff doesn't actually have to be boring, though laundry always is. There's no way around that. But what kind of trouble can an enterprising hobbyist get into in his or her own kitchen? More than you can imagine!

Have you ever wondered what electronic components are made of? Were you aware that not all electronic components are made from ultra-exotic unobtainium mined from the deepest caverns of planet Venus? Did you know that some are a bit less exotic? Did you know that you can actually make usable electronic components from the materials you probably already have around your home? It's true! You can make resistors out of pencil lead, capacitors out

of aluminum foil and paper, batteries from pocket change and white vinegar, inductors from speaker wire and cardboard tubes, an electric chair from a kitchen stool and microwave oven parts (you probably shouldn't actually make that one), a diode from a razor blade and a piece of wire, a potentiometer from pencil and paper, and a current limiter from an incandescent light bulb. Perhaps those household materials aren't as boring as they might have seemed!



Electronic Parts

These components can all be made from normal household stuff, most of which you probably already have on hand.

You might want to grab the kids for this, as these are all things that can be done safely with a minimum of adult supervision. They might even learn something, too!

Let's start off simple by making a resistor. Take a pencil, preferably one you don't like, and remove the eraser top and metal collar. Next, whittle away one side of the pencil along the entire length of it until the lead is exposed from one end of the pencil to the other. As you probably

ADAM'S JUNK BOX

A Monthly Column By
Adam Foley N1RKW



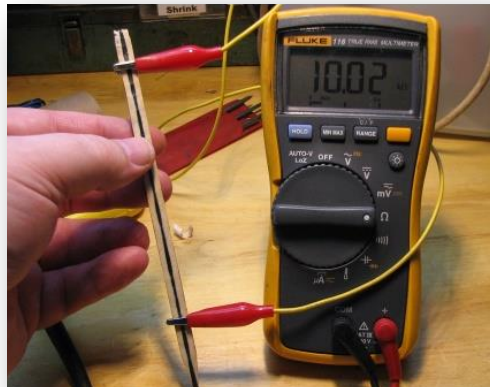
Guest Columnist Adam Foley N1RKW is a member of the Central New Hampshire Amateur Radio Club and contributes a monthly column "Adam's Junk Box" to their newsletter, also called The Communicator.

Adam also has a [YouTube Channel](#)

November 2016

"Have you ever wondered what electronic components are made of?"

already know, pencils lead isn't actually lead, it's graphite. As you probably already know, graphite is harmless, non toxic, and makes a delicious garnish. Two out of three things in that last sentence are accurate, I leave it to you to decide which.



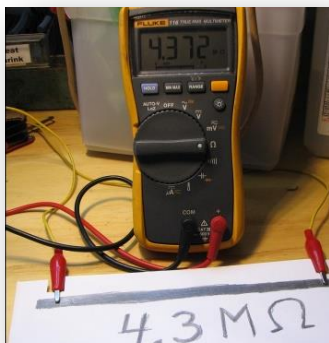
10,000 Ohm Pencil

In this particular case, with this particularly cheap pencil (they didn't even bother to make it out of real wood!), the resistance ended up being around 10KΩ (10,000 Ohms). Your own results will probably be different.

You can also use this same pencil as a variable resistor, or potentiometer, by simply attaching the leads in different places along the length of the pencil.

Another way of making a resistor out of a pencil involves the use of paper and some patience [photo left].

All you need to do is draw a big, fat line on the paper and make it as dark as you possibly can. Connecting your leads in various places along the length of the line will give you the option of dialing up the amount of resistance you want... With a caveat. The formulation of the pencil's lead will make a huge difference in how well this works. With some pencils I've been able to make lines with resistance as low as 10,000 Ohms per inch. In this case, my cheap, fake-wood pencil made a line that was more like 800,000 Ohm per inch, which gave me a total of 4.3MΩ, or 4,300,000 Ohms across the length of my line. If you find that your own line

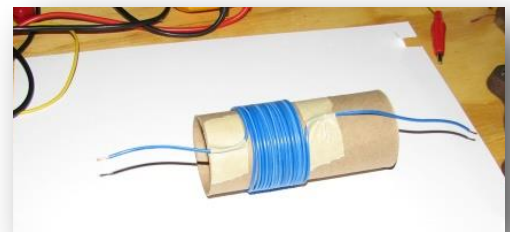


4.3 Mega Ohm Pencil

measures even higher than that or won't measure at all, try making it darker. If that doesn't work, try switching to a different pencil.

Okay, let's put to use something from the stinkiest room of the house: a toilet paper roll. Actually, all you need is the core from one, you can throw the rest of the toilet paper away as it has no use whatsoever in a polite and clean society. Next, find some wire. Almost any kind of wire will work for this, though some kinds, such as magnet wire, are more ideal and will probably produce a more efficient inductor. I used some old speaker wire I had lying around.

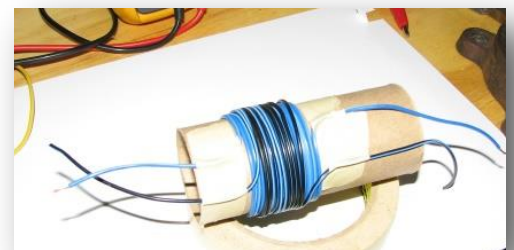
To begin, tape one end of the wire to the roll, and start coiling it up. When you reach the end of either the toilet paper roll or your wire, tape the other end of the wire down and call it good. You should get something that looks somewhat like this:



Air Core Inductor

Unfortunately, my crappy LCR meter doesn't measure low enough to give me an accurate reading on the inductor I made, so I recommend getting a better LCR meter than the cheap garbage I have.

You can also make a transformer (more than meets the eye!) much the same way simply by adding a second coil of wire:



Transformer

This particular one is probably ridiculously inefficient, but my point is to illustrate the possibility and show that it can be done simply with household junk. If you need one that actually works well, you're probably better off buying something that someone else made. This is probably true with all of these components. Again, I'm just trying to show that they're not all magic and pixie dust under the hood.

Speaking of magic, this one is lots of fun. Ever made a battery out of pocket change?



Battery before adding vinegar. The steel nut is only there to add weight, and the aluminum foil is used to make electrical connections.

It's simple enough to do, just grab all of the pennies and nickels you can find. The pennies should be as old as possible, preferably from the 1970s or earlier. This is because the feds have steadily been removing copper from newer pennies, and the current generation of pennies barely have enough copper to make them look the right color. I used a small piece of aluminum foil on the bottom to make a place to connect my test lead. On top of that, stack a nickel, then a piece of tissue paper (actual Kleenex will work just fine, that's actually what I used), and then a penny. Next another nickel, snot rag, and penny. Lather, rinse, and repeat until you have a reasonably sized stack of nickels, tissue, and pennies (keep them in that order). Next put another piece of aluminum foil on top, weighed down with a steel nut or something similar. Finally, pour enough white vinegar over the stack to saturate all of the tissue paper, and you have a battery!

Mine only put out about 0.23 volts, which is not enough to do much of anything beyond showing up on a multimeter, but again this is all about demonstrating that it can be done. What we created here is a type of wet-cell battery called a voltaic pile. See? Piles aren't always such a bad thing.

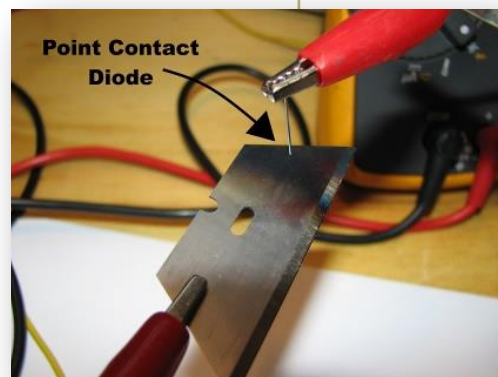
Now here's my favorite, and this one gave me a real, "Holy smokes! I can't believe that actually worked!" moment. Let's make an actual, honest-to-goodness diode!

This one will require more parental supervision for those of us who are too childish to do it safely as it involves fire and a razor blade. Safety worst! Uh, I mean safety first!

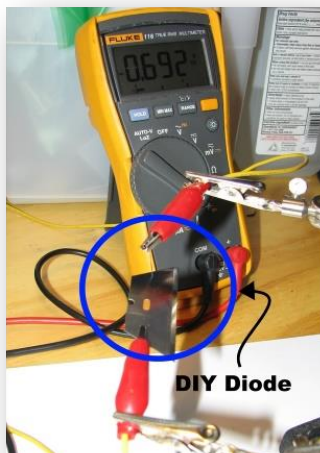
The first thing to do is to locate a steel razor blade of some sort. I used a utility knife blade, but almost any kind should work. Next, hold one end of the blade into the flame of a cheap lighter. Obviously you should hold the blade with a pair of pliers, not your fingers. Hold it in the flame until you can see some coloration appear on the blade. Remove it from the flame when you have about 1/2" of discolored metal and allow it to cool slowly. Do not touch the colored part of the blade, this is half of your diode. The other half is any small, sharp piece of wire you can get your hands on. I used the cut off lead from a silicon diode, ironically enough. Hold this wire perpendicular to the blade as shown below. I recommend using leads with alligator clips for this.



Battery after adding vinegar producing .23 volts



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Gently position the wire against the colored surface of the razor blade. You may need to move it around a bit to find a spot that works, but you should be able to make it work. Heck, if I can do it, anyone can! I used my meter's diode test function to determine when the diode was functioning as a diode, and success was verified when the meter recognized it as a diode (go figure) with a voltage drop of 0.692 volts. This is just about the same as a typical silicon diode that you can find throughout your electronic devices. Qapla'!

One of the cool things I was considering doing to go along with this article was to build a functioning crystal radio/foxhole radio out of the parts and pieces I made. However, as I indicated in the beginning of this article, time is at a premium for me right now. However, that doesn't mean that you can't build one out of your own homemade components. You will need at least one more component to do so, I think. There is another component that can easily be made out of household gunk, and I'm leaving that for you to do on your own. Remember this diagram? This is from the third article I wrote, all the way back in October of 2014 (I know, not exactly a lifetime away).

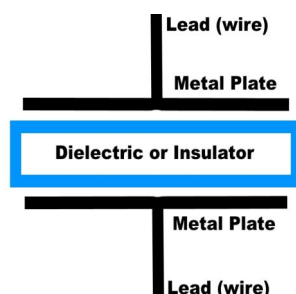
Making your own capacitor is as simple as laying out a couple of sheets of aluminum foil separated by a piece of wax-paper as your dielectric. Leave a bit of foil hanging out from each sheet but not touching the other sheet as a place to connect wires to the capacitor. Roll it up and you're done.

There are some other things that you might be able to make on your own and have fun in the process. These include but are definitely not limited to speakers (a coil, a magnet, and some paper), a current limiter (a lamp socket and a 100W incandescent bulb - be careful with this one. Obviously not one for the kiddos), a potentiometer (card stock, brass paper rivet, pencil lead), and of course the aforementioned crystal radio.

I hope you enjoy this article as much as I enjoyed writing it for you (and trying out my mad electronics skills). My brain is not infinite and needs constant nourishment with new ideas and questions. Did you know that I've only been asked two questions relating to these articles in three months? You did know that already? Sorry. It's just that I want to keep writing these articles, and I need fresh input to keep doing so! Please ask me any reasonable question you think I could answer. I mean it! Just send them to me via email. I have it listed on my QRZ page, so I'm easy to find.

~ Adam Foley N1RKW
Reprinted with permission

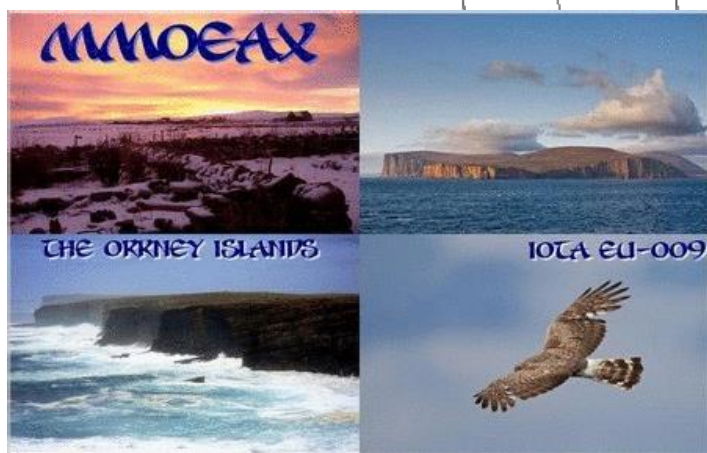
Adam Foley N1RKW has been around ham radio most of his life, but didn't smarten up and get his license until 2008. Since then he has gone on to great heights (the 12' high roof of his old house, and the 3rd floor apartment he's in now), and recently decided to take up writing a monthly column about ham radio and electronics, two of the subjects he knows a little bit about (but not much). He lives in Laconia, NH with his incredibly tolerant wife and equally tolerant son and can be reached at I can be reached by email via N1RKW at hotmail dot com.





DX Contact Of The Month

John Brodie VA7XB



*A Few Interesting Contacts Made
During the CQ WW DX (RTTY)
Contest the Weekend of 24 Sept.*

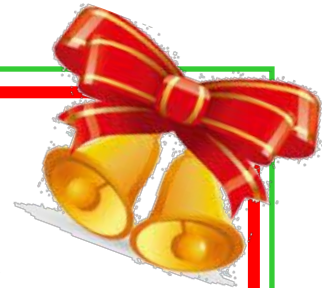


November 2016

...Continued



SARC Christmas Party



Where: Occasions on the Pond, 14320 57 Ave, Surrey

When: 10th December, 2016 **Time:** 11:30 am until 2 pm

Cost: \$25 per person for members & guests (Pre pay is preferred)

Cost: \$30 per person for non - members

Come and join us for; roast turkey and all the trimmings, salad, pasta salad, Christmas squares. Tea & coffee.

Awards and door prizes will be part of the event.

RSVP jinty.reid@gmail.com by 22nd November



Ham Tidbits

Hand-carried QRP Antennas

Hand-carried QRP Antennas, by Peter Parker VK3YE, is the new book that takes the mystery out of portable antennas.

After inviting you to assess your needs, it discusses the pros and cons of popular types. Its style is brisk and practical with almost no maths.

Many ideas for cheap but good materials suitable for portable antennas are given. Beginners and those returning to radio after a break should especially find this section handy.

Finally there's construction details on a variety of simple but practical antennas and accessories suitable for portable operating. All have been built and tested by the author over almost 30 years of successful QRP activity.

Hand-carried QRP antennas is an ebook readable on most devices (free software available if you don't have a Kindle). It's Peter's second book, following on from the popular Minimum QRP, released last year.

More information:
<http://home.alphalink.com.au/~parkerp/handqrp.htm>

Facebook page:
<https://www.facebook.com/vk3yeradiobooks/>

YouTube:
<https://www.youtube.com/watch?v=imFk17gARiA>

A New NewRadio Radio

No, I'm not stuttering, there is a new product from European manufacturer [NEWRADIO](#), billed as being developed by radio amateurs for radio amateurs. A 2m/70cm dual band mobile transceiver (see picture) with FM, D-STAR, C4FM and DMR modes. At the heart is a 1.8 GHz processor with Linux operating system and 2 pcs. AMBE + chips that allow simultaneous listening or sending plus listening to two digital modes. An LTE phone modem with SIM card provides connection to the Internet, and thus will relay lists (with frequency, offset, etc.) and user list (callsign, ID) automatically. Code plug-programming is a thing of the past.

You can now pre-order a tri-band (144, 220, 440) all-mode (FM D-STAR, C4FM, DMRplus, dDMR, P25, NXDN) radio at <http://qrznow.com/dv4mobile-pre-order/> and see a review at <http://www.va3xpr.net/dv4mobile-2016-dayton-hamvention/>

"Code plug-programming is a thing of the past."



November 2016



Vimy Ridge Special Radio Event



Vimy Ridge, a [WWI battle site](#), is an escarpment 7 km in length and rising 60 m. above the adjacent Douai Plains in the north east corner of France. This was part of the “Western Front”, the main theater of battle in WWI which stretched from the North Sea to the Swiss border at the south end. Vimy Ridge, despite its small size, was of huge strategic importance. It commanded a great field of fire

and blocked advances up the adjacent broad valleys towards important mining and industrial sites visible from the ridge. Occupied by German forces after 1914, attempts by the French and British forces to take the Ridge had repeatedly failed with casualties numbering in the hundreds of thousands.

In April of 1917, four Canadian Divisions, fighting as a unified force, using new tactics derived from the recent Battle of the Somme, captured the main part of the Ridge on the first day of combat and completely occupied the entire ground in four days. Vimy Ridge remained in Allied hands for the rest of the war and served as the base for the wireless operations of the Canadian Corps of Signals. The Vimy success was welcome news to war-weary Canada and it stirred a new sense of nationhood that some historians describe as the “moment when Canada leapt in spirit from colony to nation”

In 1922 France [ceded to Canada](#) 100 hectares at the summit of Vimy Ridge to be used as a park for the monument pictured. Every year, thousands of Canadians make an emotional journey past huge shell holes, preserved trenches and tunnels to stand in front of the monument, known as “Mother Canada”. Inscribed around the base are the names of the Canadian soldiers who were lost or missing and who have no known graves. The centenary of the Battle will be marked in April, 2017 by formal ceremonies to be held at the base of the monument which will be attended by Heads of State.

The centenary of the Battle will be marked in April, 2017 by formal ceremonies to be held at the base of the monument which will be attended by Heads of State.

Approximately 2 km away, but still at summit level, a commemorative amateur radio station with the call sign VE100VIMY, will operate from April 1 to April 9, 2017. There will be two stations and appropriate antennas working on a 24 hour basis. The event is being organized by the Vimy Commemorative Station Society, a registered in British Columbia Society, in coordination with a number of leading Canadian amateurs.

The Vimy site has been visited on three recent occasions by members of the VIMY Commemorative Station Society Executive for purposes of logistics planning and antenna siting. Radio noise levels were assessed in April of 2015 and found to be low. Present plans are to cover 160-10 meters using CW, RTTY and SSB. Special efforts will be made to aim good signals at Canada which lies at a somewhat unfavorable bearing from the QTH.

For security reasons the shack will not be open to the public nor to visiting amateurs. Contact will have to be made the hard way - on HF.

The organizers are recruiting operators with good contest or Dxing skills from as wide a cross section of Canada as is practical. Additionally, CFARS (the Canadian Forces Affiliate Radio System) has been invited to nominate licensed active service personnel to be guest operators. Interested amateurs should contact the organizers at ve100vimy@rac.ca.



Map of North Western Europe during First World War Courtesy Canadian War Museum website

November 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3 1930 SEPAR Simplex Check- in	4	5 0900 Klub Koffee Klatch: Kalmar Family Restaurant, King George Blvd & 81 st Ave. CONTEST: ARRL SS (CW)
6 Maple Ridge Swap Meet CONTEST: ARRL SS (CW)	7	8 1915 SEPAR Net 2000 SARC Net	9	10 1930 SEPAR Simplex Check- in	11 	12 0900 Klub Koffee Klatch: Kalmar Family Restaurant CONTEST: WAE DX (RTTY)
13 CONTEST: WAE DX (RTTY)	14	15 1915 SEPAR Net 2000 SARC Net	16 SARC General Meeting	17 1930 SEPAR Simplex Check- in	18	19 0900 Klub Koffee Klatch: Kalmar Family Restaurant CONTEST: ARRL SS (SSB)
20 CONTEST: ARRL SS (SSB)	21	22 1915 SEPAR Net 2000 SARC Net	23	24 1930 SEPAR Simplex Check- in	25	26 0800 Klub Koffee Klatch: Kalmar Family Restaurant CONTEST: CQ WW DX Contest (CW)
27 CONTEST: CQ WW DX Contest (CW)	28	29 1915 SEPAR Net 2000 SARC Net	30 SARC Exec Meeting	For details on all SARC events, go to ve7sar.net For details on all SEPARS events, go to separ.shutterfly.com/calendar		

Contest Details: <http://hornucopia.com/contestcal/contestcal.html>

November 2016

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Between newsletters, watch your e-mail for announcements of events, monthly meetings and training opportunities. These announcements can also be found on our web page, or via:

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QRT

John Schouten VE7TI

Reflecting On Our Courses

We're just wrapping up another 8-week SARC Basic Amateur Radio course. As a matter of fact, if you read this on the evening of November 1st, our would-be hams will be writing their exam.

It's personally satisfying to be involved with these courses and I have a few under my belt, first with VECTOR in Vancouver and for the past 8 years with SEPAR and SARC here in Surrey. I'm pleased that there are many individuals who now have their license as a result, many of whom have become active hams, participating in the hobby because they enjoy it. Many more are off-roaders, folks interested in community emergency preparedness, first responders and those who took the course as a basis for other areas of interest that require a radio license—robotics for example. And then there was the 84-year old lady who just wanted a new area of interest and thought the course looked “interesting”.

I'd like to recognize a few folks who give their time to make this happen. First of all John VA7XB as the course coordinator. John registers the students, looks after the book distribution, answers questions and ensures things run smoothly. Besides that he is also the refreshments guy, brewing the coffee and looking after other comforts in class.

Stan VA7NF is my instruction partner. He draws from his wealth of experience and years of Amateur Radio activity to provide answers and practical examples in addition to covering class material. At SARC we teach to the Industry Canada Basic Question Bank. We do this because many of our students are completely unfamiliar with either electronics or radio. To fill them with complicated theory would only confuse them

needlessly. We cover each question at least once with an explanation and examples or a demonstration.

Every once in a while I receive feedback, which is always appreciated, good or bad. Case in point, Robert VA7FMR commented on the Antenna Building Workshop, which is an optional Saturday hands-on session that is part of our curriculum:

“On Sunday I hung the antenna in the NE corner of my living room about two feet from my patio door. I called Keith, (VE7GDH) on Saltspring Island and was able to hit the repeater. I then heard very very weak signals, totally unreadable. I changed back to my usual 5/8ths whip and spoke to Keith who told me that he could hear and read me and answered several times. Well, that was a little disappointing to say the least.

Yesterday I moved the ladder antenna into my kitchen about 25 feet West of my patio, hung it from a light fixture and called Keith. He came back 5 8. There was a little noise but loud and clear. We then started to reduce output power and went down and down until he was putting out 100MW and I was outputting my lowest power of 500MW. We could both still hear each other with a little more noise with each reduction of power.

I would say this is a great success for that Antenna build program. I thank you both for your help and would like to say how I think the antenna construction morning you are running is a great and positive addition to your licensing course.”

Thanks Robert, you're welcome!

~ John VE7TI



Fall *It's November*

The leaves are falling, it's cold outside so it's time to cuddle up to a nice warm radio. Contest season has started and there are opportunities for all of our members to receive instruction at one of the available stations, just ask.

The next general meeting on November 9th will bring back John White VA7JW. John has been a frequent and valued presenter and this time he will talk about his experiments with weather proofing connections. How apropos!

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228.

On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 or IRLP Node 1737.

	SARC Net 20:00 Hrs
1 st Tuesday Standby	Drew VA7DRW Rob VE7CZV
2 nd Tuesday Standby	Jinty VA7JMR Sheldon VA7XNL
3 rd Tuesday Standby	Rob VE7CZV Vacant
4 th Tuesday Standby	Kapila VE7KGK John VA7XB
5 th Tuesday Standby	Robert VA7FMR Rob VE7CZV
Want a turn at Net Control? Contact the SARC Net Manager	

Down The Log...

SARC Monthly Meetings

2nd Wed. (Sept-Jun)
1900 hr at the PREOC
Emergency Mgmt BC
14275 96th Avenue,
Surrey, BC

Weekly Club Breakfast

Saturday at 0900 hr
Kalmar Family Restaurant
8076 King George Blvd.
Surrey

SARC Net

Tuesday at 2000 hr local
on 147.360 MHz (+)
Tone=110.9

SEPARS Net

Tuesday at 1915 hr local
on 147.360 MHz (+)
Tone=110.9

VE7RSC Repeaters

2m: 147.360MHz+
Tone= 110.9Hz
IRLP node 1736
Echolink node 496228

1.2m: 223.960 Mhz -1.6
Tone=110.9

70cm: 443.775MHz+
Tone= 110.9Hz
IRLP node 1737



We Have A SARC Patch!

These are suitable for sewing on a jacket, cap or your jammies, so you can proudly display your support for the club.

The price is \$4 each or three for \$10 and they can be picked up at a meeting or the weekly Koffee Klatch.

We thank our sponsors for their SARC support. Please support them.

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KG-UV950P





Warrant Officer Garvin (aka George) Wayne Yee, CD

February 7th, 1956 ~ October 15th, 2016

It is with tremendous sadness that we announce the sudden passing of retired
Warrant Officer Garvin (aka George) Wayne Yee

WO Yee was a signaller and veteran of the Reserve Army Signal Regiment, 39 Signal Regiment, A Squadron, garrisoned out of Jericho in Vancouver, British Columbia. He joined the unit in July 1974 when it was known as 744 Communication Squadron, and retired in December 1994 after his unit had grown into a Regiment.

WO Yee was extremely proud of his service to his country and the signal corps, and will be remembered for his devotion to duty. During his 20 years of service, he instructed on two basic training courses, served with the Lord Strathcona's Horse (Royal Canadians) Regiment and worked meticulously within 744's unit lines, serving in many different capacities during his tenure. His career advanced accordingly but Garvin always held that 'MCpl was the best rank'. No matter the position or title though, hard work and dedication were always accompanied by an infectious smile and wonderful sense of humour.

Born and raised in Vancouver, Garvin loved to travel, play softball and golf, ski, and read. He also loved watching his favourite team on TV and did everything in his power not to miss a Dallas Cowboys game. Being a communicator at heart, Garvin dabbled with 'ham' radios for a long time and held the Federal Licence Call-Sign VA7YEE. As a member of the Surrey Amateur Radio Club, he managed their emergency communication network check-ins.

In his civilian career, he worked for ACME Security for many years, retiring as a supervisor only when declining health required his full attention. Recovery allowed him to continue to enjoy life with his dad, sisters, two children and eventually, four beautiful grandchildren. They, along with many, many friends will miss Garvin deeply.

A Celebration of Life was held on Saturday, October 29th 2016, 1200 - 1500 hrs, at the
Hazelmere Golf and Tennis Club (18150 8th Avenue, Surrey)

The family requested that there be no sacrificing of cats at that time.
(And anyone who truly knew Garvin understood... ☺)

IN LOVING MEMORY



GARVIN WAYNE YEE

FEBRUARY 7, 1956 –

OCTOBER 15, 2016

Famous Last Words...

"April 8, 2004. Twelve years ago today, I received my bone marrow transplant. I've done and experienced a lot on my bonus/borrowed time, enjoying every moment of it too. I stopped and smelled the coffee, the roses and even kicked a cat. I thank you for being a part of those wonderful years too. Life is too short, so I encourage you to all to enjoy life to its fullest."

– Garvin's Facebook post April 8, 2016

"We all grow up through high school and college with dreams on how or what we'll accomplish. But in the end, all that matters is family, friends and good health. So I figured I did pretty good with 2 out of 3."

– Garvin's memoirs he wrote for his children. This excerpt is taken from the chapter 'Second Chances' on toasting and celebrating his 5 year anniversary of being cancer-free.

Acknowledgements

We would like to thank you for your love and support during our bereavement and attending our celebration of life for Garvin.



Fourteen SARC and SEPAR members attended Garvin's Celebration of Life at the Hazelmere Golf Club on Saturday, October 29th. Garvin's daughter was the emcee and read a moving tribute to her father on behalf of the other family members.

Several of his former military colleagues spoke as did SEPAR Coordinator Alan Saunders VA7BIT, who also brought condolences from the Surrey Fire Department and the RCMP Emergency Preparedness Coordinator.